

Patent Abstracts of Japan

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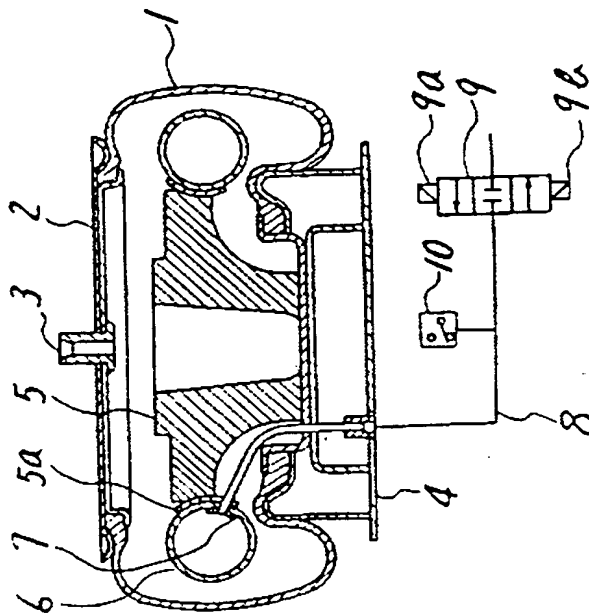
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TITLE : AIR SPRING



ABSTRACT : PURPOSE: To obtain an air spring whose spring constant is variable even in operation by constituting an air spring by an upper and a lower plates, a bellows forming an air chamber installed connecting both the plates to each other and a content volume adjusting means provided in the air chamber so as to make volume variable according to supply fluid.

CONSTITUTION: When content volume of an air spring is reduced, a solenoid 9a of an electromagnetic direction switch valve 6 is excited so as to open a port, and compressed air is supplied to a bag member 6 through an air exhaust pipe 8 and an intake/ exhaust port 7. Here, at the time when internal pressure in the member 6 gets higher than internal pressure of the air spring, the member 6 is swollen and its volume becomes the maximum. Thus, the content volume in the air spring is reduced by the volume of the member 6 to become the minimum. And when the internal pressure in the member 6 reaches prescribed pressure, it is detected so as to shut off supply of the compressed air. Also, when the content volume is to be made the maximum, air is released in a large quantity from the switch valve 9 due to excitement of a solenoid 9b, and air in the member 6 is pushed out and discharged due to pressure difference from an air spring air chamber, the capacity of the air spring gets maximum for the amount of the capacity in the member 6.

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